No Precipitation in Results

Posted by tcochran - 2008/04/23 22:56

I have been able to run the model with no errors, but when I view the results I get zero precipitation occuring. I ran the parameterization of the soils and land use with no errors. I suspect there is an issue with the precipitation file. I have followed the format in the help to create the SWAT precipitation file. It covers six years of daily rainfall data, and when I select Write it only takes a split second to write the file. There may be an issue here but I don't know what it is. So when I end up running the model and viewing the results there are no errors, but everything is zero. Obviously the problem is with the precipitation file if I don't show any occuring but I cannot see what is wrong with it. Also does the weather generator file have an impact on the precipitation file? I select the closest station to my area. Thanks for your help.

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Re:No Precipitation in Results

Posted by tcochran - 2008/04/24 19:00

After further investigation I am not convinced it is the precipitation file that is the problem. I run everything without errors but I still end up with no output for the simulation run.

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Re:No Precipitation in Results

Posted by isburns - 2008/04/24 21:14

It probably isn't your precipitation file. What's more likely is the model didn't actually finish running because it encountered an error. If you look at this post you'll find instructions on how to see if the model is running. When it fails, you can still import tables but they'll be empty, which is why you're getting 0 precipitation.

The weather generator file does not have an impact the precipitation file unless there is missing data in the precipitation file and then it will jump in to fill in the blanks by generating data for the missing day or days.

Shea

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Re:No Precipitation in Results

Posted by tcochran - 2008/04/25 15:22

I was able to get a screen capture of the swat2000 run. Do you know where the problem is? I am attaching the image.

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Re:No Precipitation in Results
Posted by tcochran - 2008/04/25 15:29

Here is the file. http://www.tucson.ars.ag.gov/agwa/images/fbfiles/files/AGWA2_error.zip

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Re:No Precipitation in Results
Posted by isburns - 2008/04/30 23:57

This problem was resolved off the forum but the source/solution is being posted for the benefit of others.

This SWAT error resulted from subwatersheds being assigned CNs of 100 or 0 during the LC/Soils parameterization process. A CN of 100 occurs when the entire subwatershed only intersects water in the land cover. A CN of 0 occurs when the grid has classes not supported in the look-up table used or if the look-up table has classes with 0s in it.

The 2001 NLCD can be the culprit here because the look-up table (mrlc_lut) provided with AGWA were designed for the 1992 NLCD. Another look-up table for the 2001 NLCD/MRLC will be available soon.

Shea

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Re:No Precipitation in Results
Posted by Nicholas Hayden - 2008/06/26 00:49

Shea-

What changes need to be made to the mrlc_lut for 2001 data? I keep getting a "Land characterization failed" error, I assume this is due to the 2001 dataset.

-Nick Hayden

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Re:No Precipitation in Results
Posted by isburns - 2008/06/29 04:53

Hi Nick,
The 2001 NLCD requires a modified look-up table because some of the classes were changed and a few more classes were added. I'm working on creating a new look-up table for the 2001 data, but I still need to fill in a few holes before it's ready. In the meantime, if you'd like to start using the 2001 data immediately you'll need to modify the table yourself, in which case you should take a look at the following sites

http://www.epa.gov/mrlc/classification.html
http://www.epa.gov/mrlc/definitions.html
and also the TR-55 documentation which is where many of the CNs in the table were derived.
http://www.wsi.nrcs.usda.gov/products/w2q/H&H/Tools_Models/other/TR55.html

When I'm done with the new look-up table, I plan on providing a little more documentation/insight into how we came up with table for future reference.

Shea

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Re:No Precipitation in Results
Posted by Nicholas Hayden - 2008/07/01 01:48

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Shea-

I doubled checked my 2001 NLCD dataset, and the classes are the same as the mrlc_lut.dbf except for a "0" value, which seems to be used in lieu of a NoData value. I will try reclassifying the 0's to NoData and see what happens. There shouldn't have been any 0's in the area clipped by AGWA, but hopefully that will fix it.

Nick

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Re:No Precipitation in Results
Posted by isburns - 2008/07/15 19:37

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Nick,
Any luck with the 2001 data?

Shea

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Re:No Precipitation in Results
Posted by Nicholas Hayden - 2008/07/24 01:12

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No, still no luck, but I no longer think it's the land cover. I changed the "0" value in the nlcd to "11", so the values should match up. I get a discretized watershed that has all of the values filled in, and they seem like reasonable values (soil_id, CN, Cover, Crop).

It seems like the soils might be the problem, this is the error message I get:

forrtl: severe (161): Program Exception - array bounds exceeded
Image PC Routine Line Source

```
swat2000.exe      004ECB8C  READSOL          110    readsol.f
swat2000.exe      004F31D2  READSUB          228    readsub.f
swat2000.exe      004D875D  READINPT         70     readinpt.f
swat2000.exe      0048FE85  MAIN             83     main.f
swat2000.exe      005DFEB9  Unknown          Unknown  Unknown
swat2000.exe      005D2764  Unknown          Unknown  Unknown
kernel32.dll      7C816FD7  Unknown          Unknown  Unknown
```

I will try deleting my soils database, and reimporting the values to see if that does anything. Not sure what to do beyond that, save running one of the tutorials to try to figure out if it is a specific computer issue.

-Nick

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Re:No Precipitation in Results

Posted by isburns - 2008/08/25 23:20

Hi Nick,
Does your soils file have an MUKEY field (SSURGO or new STATSGO)? If so, did you import the tabular data into the Access database? See these two posts:
post 1
post 2

Shea

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Re:No Precipitation in Results

Posted by Nicholas Hayden - 2008/09/03 02:29

Shea-

Yes, I had been importing the tabular files, but I was using SSURGO. I eventually saw a post (for AGWA 1.x) where you mentioned that the SSURGO data files might be incorrect/corrupt for an area. I reverted to STATSGO, and was eventually successful getting the entire SWAT model to run. At times, I had to delete the entire STATSGO dataset, unzip the original again, and re-import the files for SWAT to work on different delineations.

My other problem was that I was getting values in the discretization, but I hadn't been checking after each discretization before. Adjusting the CSA slightly for each watershed seems to work to eliminate this problem.

-Nick

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